

REMARKS/ARGUMENTS

The Examiner is thanked for the thorough examination and search of the subject.

- 5 Claims 163-208 are pending, wherein Claims 163-208 are currently amended, and Claims 1-162 are canceled.

Response to Claim Rejections under 35 U.S.C. 102 and 103

- 10 Applicants respectfully traverse the rejections for at least the reasons set forth below.

Response to Claims 163-178

- 15 =====
As currently amended, independent claim 163 is recited below:
163. A chip package comprising:
 a substrate comprising silicon;
 a die joined with said substrate; and
20 a metallization structure over said die, wherein said metallization structure comprises an electroplated metal.
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- 25 *Reconsideration of Claim 163-178 rejected under 35 U.S.C. 102(e) as being anticipated by Eichelberger et al. (U.S. Patent No. 6,396,148) is requested based on the following remarks.*

Applicants respectfully assert that the chip package claimed in claim 163 patentably distinguishes over the citation by Eichelberger et al. (U.S. Patent No. 6,396,148).

5 Eichelberger et al. teach a chip package comprising a substrate 101, a die 102 joined with said substrate 101, and a metallization structure 108 over said die 102. ~ See FIG. 1 and col. 4, lines 9-22 ~

10 The Examiner considers that the disclosure in col. 10, line 1 includes the fact that “the substrate 101 comprises silicon”. ~ See the last fourth paragraph in page 2, in the last Office Action mailed Jun. 22, 2006 ~

Applicants respectfully traverse the Examiner’s opinion. The silicon bulk depicted in col. 10, line 1 should indicate a die, not a substrate. Eichelberger et al.
15 consider that silicon must be prevented from contacting various plating chemicals and therefore a polymer film 215 covering bottom surfaces of dies 200. ~ See Figs. 5A-5C, col. 9, line 66 through col. 10, line 4, and col. 10, lines 21-23 ~ Eichelberger et al. teach that the die 102 may comprise silicon, but fail to teach, hint or suggest that the substrate 101 may comprise silicon, as claimed in claim 163. If the Examiner considers that
20 Eichelberger et al. do teach that the substrate 101 comprises silicon, showing the clear disclosure concerning the subject matter that “the substrate 101 comprises silicon” is respectfully requested.

25 The Examiner considers that the disclosure in col. 4, lines 47-49 includes the fact that “the metallization structure 109 comprises an electroplated metal”. ~ See the last paragraph in page 2, in the last Office Action mailed Jun. 22, 2006 ~

Applicants respectfully traverse the Examiner’s opinion. The disclosure in Figs.

3C-3D, col. 4, lines 47-49 and col. 6, lines 24-26 includes aluminum integrated circuit (IC) contact pads 107 are to be directly plated with an electroless metal 120 coating before a polymer 106 is applied above the integrated circuit chips. Eichelberger et al. teach that the metallization structure 120 over the dies 102 comprises an electroless plated metal,
5 but fail to teach, hint or suggest that the metallization structure 120 over the dies 102 may comprise an electroplated metal, as claimed in claim 163. If the Examiner considers that Eichelberger et al. do teach that the metallization structure 120 comprises an electroplated metal, showing the clear disclosure concerning the subject matter that “the metallization structure 120 comprises an electroplated metal” is respectfully requested.

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As a result, Eichelberger et al. fail to teach, hint or suggest the subject matters that “a substrate joined with a die comprises silicon” and that “a metallization structure over a die comprises an electroplated metal”, as claimed in claim 163. Withdrawal of rejection under 35 U.S.C. 102(e) to Claims 163-178 is respectfully requested.

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For at least the foregoing reasons, applicants respectfully submit independent claim 163 patently distinguishes over the prior art references, and should be allowed. For at least the same reasons, dependent claims 164-178 patently define over the prior art as well.

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Response to Claims 179-196

As currently amended, independent claim 179 is recited below:

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179. A chip package comprising:

a substrate comprising silicon;

a die joined with said substrate; and

a metallization structure over said die, wherein said metallization structure

comprises a metal trace connecting multiple separate pads of said die.

5 *Reconsideration of Claim 179-196 rejected under 35 U.S.C. 102(e) as being anticipated by Eichelberger et al. (U.S. Patent No. 6,396,148) is requested based on the following remarks.*

10 Applicants respectfully assert that the chip package claimed in claim 179 patentably distinguishes over the citation by Eichelberger et al. (U.S. Patent No. 6,396,148).

15 Eichelberger et al. teach a chip package comprising a substrate 101, a die 102 joined with said substrate 101, and a metallization structure 108 over said die 102. ~ See FIG. 1 and col. 4, lines 9-22 ~

 The Examiner considers that the disclosure in col. 10, line 1 includes the fact that “the substrate 101 comprises silicon”. ~ See the last fourth paragraph in page 2, in the last Office Action mailed Jun. 22, 2006 ~

20 Applicants respectfully traverse the Examiner’s opinion. The silicon bulk depicted in col. 10, line 1 should indicate a die, not a substrate. Eichelberger et al. consider that silicon must be prevented from contacting various plating chemicals and therefore a polymer film 215 covering bottom surfaces of dies 200. ~ See Figs. 5A-5C, col. 9, line 66 through col. 10, line 4, and col. 10, lines 21-23 ~ Eichelberger et al. teach
25 that the die 102 may comprise silicon, but fail to teach, hint or suggest that the substrate 101 may comprise silicon, as claimed in claim 163. If the Examiner considers that Eichelberger et al. do teach that the substrate 101 comprises silicon, showing the clear disclosure concerning the subject matter that “the substrate 101 comprises silicon” is

respectfully requested.

Besides, Eichelberger et al. teaches that the metallization structure over said die 102 comprises multiple metal traces 108 each connected to only one of multiple pads 107
5 of said die 102, but fail to teach, hint or suggest that the metallization structure over said die 102 may comprise a metal trace connecting multiple separate pads 107 of said die 102, as claimed in claim 179. ~ See Fig. 1 ~

As a result, Eichelberger et al. fail to teach, hint or suggest the subject matters that
10 “a substrate joined with a die comprises silicon” and that “a metallization structure over a die comprises a metal trace connecting multiple separate pads of said die”, as claimed in claim 179. Withdrawal of rejection under 35 U.S.C. 102(e) to Claims 179-196 is respectfully requested.

15 For at least the foregoing reasons, applicants respectfully submit independent claim 179 patently distinguishes over the prior art references, and should be allowed. For at least the same reasons, dependent claims 180-196 patently define over the prior art as well.

20 **Response to Claims 197-208**

As currently amended, independent claim 197 is recited below:

197. A circuitry component comprising:

25 a die; and
a metallization structure over said die and extending across an edge of said die and to a place not over said die, wherein said metallization structure comprises a portion connecting multiple separate pads of said die and used to provide a ground

voltage.

5 *Reconsideration of Claim 197-208 rejected under 35 U.S.C. 102(e) as being
anticipated by Eichelberger et al. (U.S. Patent No. 6,396,148) is requested based on the
following remarks.*

10 Applicants respectfully assert that the chip package claimed in claim 197
patentably distinguishes over the citation by Eichelberger et al. (U.S. Patent No.
6,396,148).

15 Eichelberger et al. teach a chip package comprising a die 102 and a metallization
structure 108 over said die 102 and extending across an edge of said die 102 and to a
place not over said die 102. ~ See FIG. 1 and col. 4, lines 9-22 ~

20 Eichelberger et al. teach that the metallization structure over said die 102 and
extending across an edge of said die 102 and to a place not over said die 102 comprises
multiple metal traces 108 each connected to only one of multiple pads 107 of said die 102,
but fail to teach, hint or suggest that the metallization structure over said die 102 and
extending across an edge of said die 102 and to a place not over said die 102 may
comprise a portion connecting multiple separate pads 107 of said die 102, as claimed in
claim 197. ~ See Fig. 1 ~

25 The Examiner considers that the disclosure in col. 5, line 31 includes the fact that
“the metallization structure over said die 102 and extending across an edge of said die
102 and to a place not over said die 102 comprises a portion providing a ground voltage”.
~ See lines 1 and 2 in page 3, in the last Office Action mailed Jun. 22, 2006 ~

Applicants respectfully traverse the Examiner's opinion. The disclosure in col. 5, line 31 does not depict whether the ground bus is in said die 102 or over said die 102.

Eichelberger et al. fail to teach, hint or suggest that the metallization structure over said die 102 and extending across an edge of said die 102 and to a place not over said die 102

5 may comprise a portion used to provide a ground voltage. If the Examiner considers that Eichelberger et al. do teach that the metallization structure over said die 102 and extending across an edge of said die 102 and to a place not over said die 102 comprises a portion used to provide a ground voltage, showing the clear disclosure concerning the

subject matter that "the metallization structure over said die 102 and extending across an
10 edge of said die 102 and to a place not over said die 102 comprises a portion used to provide a ground voltage" is respectfully requested.

As a result, applicants consider that Eichelberger et al. fail to teach, hint or suggest the subject matter that "a metallization structure over a die and extending across an edge

15 of said die and to a place not over said die comprises a portion connecting multiple separate pads of said die and used to provide a ground voltage", as claimed in claim 197.

Withdrawal of rejection under 35 U.S.C. 102(e) to Claims 197-208 is respectfully requested.

20 For at least the foregoing reasons, applicants respectfully submit independent claim 197 patently distinguishes over the prior art references, and should be allowed. For at least the same reasons, dependent claims 198-208 patently define over the prior art as well.

25 CONCLUSION

Some or all of the pending claims are believed to be in condition for allowance. Accordingly, allowance of the claims and the application as a whole are respectfully

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requested.

Sincerely yours,

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Note: Please leave a message in my voice mail if you need to talk to me. (The time in D.C. is 12 hours behind the Taiwan time, i.e. 9 AM in D.C. = 9 PM in Taiwan.)